

Topic:
CAD/CAM and
Raster Technology

What's the Long Term Future for the Raster Market?

We look at factors crucial to the conversion of mountains of paper-based engineering archives

iCAD is produced by Business Advantage, a B2B research, business development and marketing consulting practice operating in the global IT, Digital and Telecommunication sectors.

An astonishing 85% of business drawings worldwide are still maintained in a non-electronic format, mainly in legacy paper-based engineering archives. That is the staggering estimate by International Data Corporation and Document Management magazine.

Yet converting paper to electronic format can save more than just money. Faced with critical equipment failure, a Polish coal mine used engineering changes directly in the ISO compliant raster images to service and maintain equipment, and their return on investment was immediate. Even without emergency situations, return on investment can be rapid: in Taiwan, engineering changes in the Nuclear Power industry were reduced, as was the time, from three months to a matter of days, by investing in proper hybrid editing tools. The time was saved because engineering changes were done in raster only, and not converted to CAD before being made, thereby giving the engineers 100% control of the change process - from idea to production.

Definition:

Raster

Originally a term for a screen, raster graphics are unintelligent computer-drawn or scanned data, that contain 'paint by number'-type information via x and y co-ordinates on the display grid (and z for 3D). BMP, TIFF, GIF and JPEG files are all raster file types.

Vector

Vector graphics create digital images through defining which points are connected to which other points in 2D or 3D space, thus, if you alter the data point and the conditions, the graphic automatically alters itself. Files are much smaller. A much more labour intensive process.

Hybrid Raster Vector

Scanned raster data is combined with intelligent CAD vector data in the same drawing, while raster content access is CAD-like on individual elements.

Advantages

Good financial option for companies with legacy paper archives. These can be scanned and have vector data overlaid where necessary. e.g. edits, additions, title blocks, extractable data are kept in vector format while background data remains raster.

Areas of growth

In EMEA (Europe, Middle East and Africa) and the US, the markets for raster technology are projected to be stable or slightly declining over the next few years. In Europe, where electronic formats were first explored, growth is now slowing due to earlier adoption of CAD systems. The largest area of growth is in APAC (Asia Pacific) countries, where conversion to and adoption of electronic documents began later. The market segments showing the strongest growth generally are in Geographical Information Systems (GIS) (particularly in the US), engineering changes to legacy documents and Facilities Management.

Do customers understand what they are getting?

"Customers are flabbergasted when they see the CAD-like editing availability in hybrid solutions, *"This can save us some real time and money"* is the normal response!" (Frode Rødland, Area Manager - Consistent Software).

It seems that the possibilities of the software are not always understood by the customer. One of the challenges for the sector is to educate its buyers and users. Furthermore, the lower the level of understanding, the more the customer is likely to buy an entry-level product, leading to opportunities at the lower end of the market for smaller competitors. Resellers are more interested in higher-end products offering more features and functionality at more profitable margins. As Juergen Buhr, Marketing Director of softelec GmbH pointed out: "It is not our strategy to break our hybrid software packages down into lots of different tools, this would only increase consultancy and sales efforts with demos and samples etc. in pre-sales situations. Resellers would not be happy to deal with small tools".

Geographical differences

Major vendors in EMEA are now focused on selling consultancy-led 'solutions' for larger corporations, rather than 'products' because of the increased maturity of the market. It is a time consuming sales process to obtain product acceptance and change of workflow within organisations. In APAC, however, there is significant growth: here, large format scanner manufacturers present the main opportunity, as their strategy is to bundle raster technology in order to gain sales leverage. Worldwide it is estimated that 5,000 to 10,000 raster licences are associated annually with large format scanner sales. The faster growing markets in particular lie in China, Thailand and India. Japan represents a more mature market.

Conclusions

- Hybrid raster vector technology will be key to the conversion of mountains of legacy paper-based engineering archives
- Consumers' preference in the raster market leans towards bundled products
- Users of raster technology need further education and training
- Users lack knowledge of the functionality of the software.

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